SABIC® LLDPE 218BJ

LINEAR LOW DENSITY POLYETHYLENE

DESCRIPTION

SABIC® LLDPE 218BJ is a butene linear low density polyethylene resin with an additive package typically designed for a broader range of food applications (TNPP free). The good thermal stability allows to use the resin in critical extrusion processing conditions. Films produced from SABIC® LLDPE 218BJ have better draw-down ability compared to lower MFR LLDPE resins. This product is not intended for and must not be used in any pharmaceutical/medical applications.

TYPICAL APPLICATIONS

SABIC® LLDPE 218BJ is typically used for food applications (lamination film, barrier film), melt embossed films, but can also be used in industrial packaging such as cling film and stretch film for manual and pallet wrap. It can also be used as a blending partner with other SABIC® PE resins in general-purpose blown and cast film applications.

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR)			
at 190 °C and 2.16 kg	2.0	dg/min	ISO 1133
Density	918	kg/m³	ASTM D1505
DSC			
melting point	122	°C	SABIC method
MECHANICAL PROPERTIES			
Tensile test			
stress at break	17	MPa	ASTM D638
stress at yield	12	MPa	ASTM D638
strain at yield	16	%	ASTM D638
strain at break	790	%	ASTM D638
Flexural test			
Secant modulus at 1% elongation	254	MPa	ASTM D790
Hardness Shore D	48	-	ISO 868
OPTICAL PROPERTIES [1]			
Gloss (45°)	92	‰	ASTM D2457
Haze	1.2	%	ASTM D1003
FILM PROPERTIES [1]			
Dart impact	2.8	kJ/m	ISO 7765-2
Tear strength TD	185	kN/m	ISO 6383-2
Protrusion Puncture resistance	2.2	J	ASTM D5748-95
Elastic recovery & Stress retention			
Elastic recovery	52.6	%	ASTM D5459-95
Stress retention	80	%	ASTM D5459-95
Peel cling			
0% pre-stretch	0.06	N/mm	ASTM D5458-95
200% pre-stretch	0.05	N/mm	ASTM D5458-95
THERMAL PROPERTIES			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temperature			
at 10 N (VST/A)	96	°C	ISO 306
HIGHLIGHT PROPERTIES			
Ultimate pre-stretch level	310	%	-
Retention force at 60 sec	0.97	kg	-
ELECTRICAL PROPERTIES			
Volume resistivity	5.0E15	Ω.cm	ASTM D257
Dissipation factor at 60 Hz	1.0E3	-	ASTM D150
Dielectric constant at 60 Hz	2.17	-	ASTM D150
Dielectric strength at 500 V/sec	55	V/µm	ASTM D149

(1) Properties have been measured by producing 30 µm film with 2.5 BUR using 100% 218BJ.

PROCESSING CONDITIONS

Typical processing conditions for 218BJ are:

Melt temperature: 250 - 300°C

Chill roll temperature: 20°C

ENVIRONMENT AND RECYCLING

The environmental aspects of any packaging material do not only imply waste issues but have to be considered in relation with the use of natural resources, the preservations of foodstuffs, etc. SABIC Europe considers polyethylene to be an environmentally efficient packaging material. Its low specific energy consumption and insignificant emissions to air and water designate polyethylene as the ecological alternative in comparison with the traditional packaging materials. Recycling of packaging materials is supported by SABIC Europe whenever ecological and social benefits are achieved and where a social infrastructure for selective collecting and sorting of packaging is fostered. Whenever 'thermal' recycling of packaging (i.e. incineration with energy recovery) is carried out, polyethylene -with its fairly simple molecular structure and low amount of additives- is considered to be a trouble-free fuel.

STORAGE AND HANDLING

Polyethylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50°C. SABIC would not give warranty to bad storage conditions, which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PE resin within 6 months after delivery.